

ANNUAL REPORT OF THE OHIO ACADEMY OF SCIENCE
1960

Organized 1891

Incorporated 1892

Affiliated with the American Association for the Advancement of Science

OFFICERS AND COMMITTEES FOR 1960

President

GLENN H. BROWN

President-Elect

GUY-HAROLD SMITH

Secretary

GEORGE W. BURNS

Treasurer

ROBERT M. GIESY, III

Director of Public Relations

JOHN R. COASH

Executive Secretary

KENNETH B. HOBBS

Executive Director, Junior Division

GEORGE G. ACKER

Executive Vice-Presidents

- | | |
|--|--|
| A. <i>Zoology</i> : D. J. BORROR | G. <i>Chemistry</i> : E. B. ROSSER |
| B. <i>Plant Sciences</i> : D. S. DEAN | H. <i>Science Education</i> : C. RISER |
| C. <i>Geology</i> : R. H. BOND | I. <i>Anthropology and Sociology</i> : F. F. MILES |
| D. <i>Medical Sciences</i> : R. A. KEHOE | J. <i>Conservation</i> : W. CARMEAN |
| E. <i>Physics and Astronomy</i> : P. B. TAYLOR | K. <i>Genetics</i> : L. O. GILMORE |
| F. <i>Geography</i> : J. L. THOMPSON | |

Membership Vice-Presidents

- | | |
|---|---|
| A. <i>Zoology</i> : L. S. PUTNAM | G. <i>Chemistry</i> : L. P. EBLIN |
| B. <i>Plant Sciences</i> : W. G. GAMBILL | H. <i>Science Education</i> : P. READ |
| C. <i>Geology</i> : J. L. FORSYTH | I. <i>Anthropology and Sociology</i> : D. G. DEAN |
| D. <i>Medical Sciences</i> : E. W. E. SCHEAR | J. <i>Conservation</i> : R. B. REDETT |
| E. <i>Physics and Astronomy</i> : C. A. RANDALL | K. <i>Genetics</i> : E. F. PADDOCK |
| F. <i>Geography</i> : E. H. BUSH | |

COMMITTEES

Executive

G. H. BROWN, *Chm.*, G. G. ACKER, G. W. BURNS, J. R. COASH, D. M. DELONG,
R. M. GIESY, E. F. PADDOCK, R. A. POPHAM

Nominating

MEMBERS OF THE EXECUTIVE COMMITTEE

Program

EXECUTIVE VICE-PRESIDENTS AND THE SECRETARY, *Chairman*

Library

Academy Librarian, JEAN BROTSMAN, *Chairman*

W. P. SPENCER.....Term expires 1961 W. G. GAMBILL.....Term expires 1963

Publications

THE SECRETARY, *Chairman*

W. P. SPENCER.....Term expires 1961
W. G. GAMBILL.....Term expires 1963

Trustees of Research Funds

H. V. KNORR, *Chm.*.....Term expires 1961
E. H. CHERKINGTON.....Term expires 1962
R. DAVIDSON.....Term expires 1963

THE OHIO JOURNAL OF SCIENCE 60(4): 239, July, 1960.

Necrology

J. T. MADDOX, *Chm* Term expires 1961
 H. H. M. BOWMAN Term expires 1962
 W. C. STEHR Term expires 1963

Ohio Flora

T. R. FISHER, *Chairman*
 E. L. BRAUN
 J. A. HERRICK
 G. W. BLAYDES
 E. S. THOMAS
 CLARA WEISHAUP

Resolutions

K. L. KELLEY, *Chm* Term expires 1961
 J. H. COOPER Term expires 1962
 A. LINDSCHIED Term expires 1963

Academy History

R. W. DEXTER, *Chairman*

Institution and Corporation Membership

PAUL ROTHMUND, *Chairman*
 G. H. CROWL
 S. N. HALLECK, II
 E. F. PADDOCK

Training and Certification of Science Teachers

J. H. BUCKINGHAM, *Chairman*
 E. H. BUSH
 R. P. GOLDTHWAIT
 E. E. GOOD

A. G. McQUATE
 C. A. RANDALL
 J. SKILKEN
 T. C. HOLYOKE

Academy Representatives

1. On the Joint Administrative Board of The Ohio Journal of Science:
 W. P. SPENCER Term expires 1961 W. G. GAMBILL Term expires 1963
2. On the Council of the American Association for the Advancement of Science:
 K. B. HOBBS

The Council for 1960-61

G. G. ACKER
 R. H. BOND
 D. J. BORROR
 J. BROTSMAN
 G. H. BROWN
 J. H. BUCKINGHAM
 G. W. BURNS
 E. H. BUSH
 W. CARMEAN
 J. R. COASH
 D. G. DEAN
 D. S. DEAN
 D. M. DELONG

R. W. DEXTER
 L. P. EBLIN
 T. R. FISHER
 J. L. FORSYTH
 W. G. GAMBILL
 R. M. GIESY
 L. O. GILMORE
 R. A. KEHOE
 K. L. KELLEY
 H. V. KNORR
 J. T. MADDOX
 F. F. MILES
 E. F. PADDOCK
 H. L. PLAINE

R. A. POPHAM
 L. S. PUTNAM
 C. A. RANDALL
 P. READ
 R. B. REDETT
 C. RISER
 E. B. ROSSER
 P. ROTHMUND
 E. W. E. SCHEAR
 G. H. SMITH
 W. P. SPENCER
 P. B. TAYLOR
 J. L. THOMPSON

REPORT OF THE SIXTY-NINTH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

The 69th annual meeting was held on the campus of Antioch College April 21, 22, and 23, 1960, the first ever to be held there. More than 700 persons registered for the meetings of the senior division, about the same number as in 1959. The local committee on arrangements, under the chairmanship of Dr. John Lounsbury, did an outstanding job in providing the facilities necessary to make this meeting a real success.

The Executive Committee, the Council, and the Committee on Election of Fellows met on April 21; their reports are to be found elsewhere in this Annual Report. On Friday, April 22, ten sections and one sub-section held meetings in the following fields: Zoology, Plant Sciences, Genetics, Geology, Medical Sciences, Physics and Astronomy, Geography, Chemistry, Science Education, Anthropology and Sociology, and Conservation. More than 150 research papers were presented and discussed. Highlights of the sectional meetings included a symposium on Federally Supported Laboratories in Ohio Engaged in Research in the Physical Sciences, demonstrations of experimental studies in psycho-physiology, growth, and development at Fels Research Institute, a symposium on Industry-Related Laboratories in Physics, a panel on The Status of Geography in Our Secondary Schools, a symposium on Urban Expansion and Natural Area Preservation, and two field trips, one sponsored by the Section of Geology, the other by the Section of Conservation.

Throughout Friday the Junior Division sponsored the Twelfth Annual State Science Day in which 600 projects were entered by nearly 700 students from 240 schools. The number of

projects had to be limited, because of space, to about the number entered in 1959; the number of schools represented increased by 27. Sectional meetings were, as usual, suspended at 11:00 a.m. to give all members an opportunity to view exhibits of the Junior Division.

The annual banquet and business meeting were held Friday evening in the Dining Hall of the Antioch Union. Dean W. Boyd Alexander served as toastmaster. Greetings from Antioch College were given by President James Dixon and the response was made by the Academy's most recent past-president, Dr. Richard P. Goldthwait. Dr. Dwight M. DeLong, President of The Ohio Academy of Science, delivered his presidential address, "Man in a World of Insects." Professor G. G. Acker, Executive Secretary of the Junior Division, announced awards to outstanding high school teachers; these are identified in the report of the Junior Division, to be found elsewhere in this Annual Report. Professor Acker presented a Distinguished Service citation to Dr. Frederick H. Kreckler, recognizing his outstanding service to the Junior Division. Ten-year membership awards were presented by President DeLong to Battelle Memorial Institute and to Kent State University. In the annual business meeting the membership formally approved a constitutional amendment setting up the office of President-Elect, and elected officers, as listed at the head of this annual report, to serve for the coming year. The membership also approved the formation of a new section of the Academy, Section K, Genetics.

Sixteen members of the Academy were announced as newly elected Fellows. Their names and sectional affiliations follow:

J—ROBERT W. ALRUTZ	J—FLOYD E. HEFT
J—DANIEL C. ARMBRUSTER	G—ROBERT K. INGHAM
J—FRANCIS J. BAKER	J—ROBERT H. MILLS
I—JOSEPH K. BALOGH	E—CHARLES A. RANDALL, JR.
J—SAMUEL W. BONE	F—JAMES A. RINIER
I—DWIGHT G. DEAN	J—H. GRANVILLE SMITH
A—LESTER O. GILMORE	E—PAUL B. TAYLOR
J—SCOTT C. HARTMAN	G—S. J. VELLENGA

Respectfully submitted,

GEORGE W. BURNS, *Secretary*

REPORT OF THE EXECUTIVE COMMITTEE AND THE COUNCIL

The Executive Committee met June 13, September 5, October 17, December 11, 1959, January 23, February 20, March 12, and April 21, 1960, for a total of more than 33 hours; the Council met December 12, 1959 and April 21, 1960.

1. *Meetings of the Executive Committee.*—In addition to much routine business incident to the operation of the Academy, the Executive Committee: approved locating its central offices at Battelle Memorial Institute, defined the duties of its new Executive Secretary, approved changes in requirements and privileges of corporation membership, approved text and format for the new brochure, authorized a membership-officer directory card for all members effective with the summer of 1960, set up a temporary finance sub-committee to plan the Academy's investment program, accepted the invitation of Western Reserve University to host the Academy's 1964 meeting, approved a budget for 1960, recommended to Council a constitutional amendment setting up the office of President-Elect, approved four proposals to be presented to the National Science Foundation (Visiting Scientists for Ohio Schools, Traveling Science Library, Visiting Scientists for 69th Annual Meeting, Development and Operation of Science Days in Ohio), worked out long range policy proposals for presentation to the membership, recommended to Council the formation of Section K (Genetics) from sub-section AB, and approved a new Junior Division center at Ashland College, and authorized awards to Dr. Kreckler and to ten-year institution members.

2. *Meetings of the Council.*—Reports were presented by all officers and committee chairmen. Their annual reports are presented in the following pages.

Council approved two resolutions from Section J regarding preservation of natural recreational and educational areas. Reports of this action were subsequently sent to President Dixon of Antioch College in support of efforts to maintain Glen Helen against disturbance. In other actions, Council approved the proposed constitutional amendment on a President-Elect for presentation to the membership at the annual meeting, and approved formation of Section K, Genetics.

Dates for the 1961 Annual Meeting at the University of Cincinnati were announced for April 20, 21 and 22, 1961.

Respectfully submitted,

GEORGE W. BURNS, *Secretary*

REPORT OF THE TREASURER
FISCAL YEAR 1959

Herewith is submitted a financial statement of The Ohio Academy of Science as of December 31, 1959. The statement is a true copy of the financial statement certified by our auditor, Mr. P. H. Sturtevant, 547 E. Broad St., Columbus, Ohio. A copy of the auditors report is on file at the Academy's central office.

Respectfully submitted,

ROBERT M. GIESY, *Treasurer*

EXHIBIT A. COMPARATIVE BALANCE SHEET as of December 31, 1959 and 1958

<i>ASSETS</i>			
	<i>1959</i>	<i>1958</i>	<i>Increase (Decrease)</i>
CURRENT EXPENSE FUND:			
Cash in the Huntington National Bank.....	\$ 887.97	\$18,084.97	\$(17,197.00)
Investments:			
Buckeye Federal Savings & Loan Association.....	5,000.00		5,000.00
Franklin Federal Savings & Loan Association.....	5,000.00		5,000.00
Ohio Federal Savings & Loan Association.....	5,000.00		5,000.00
Park Federal Savings & Loan Association.....	1,000.00		1,000.00
U. S. Savings Bonds—Series G.....		1,900.00	(1,900.00)
Modern Finance Company.....	8,000.00	8,000.00	—0—
Total Current Expense Fund Assets.....	\$24,887.97	\$27,984.97	\$ (3,097.00)
RESEARCH FUND			
Cash in the Huntington National Bank.....	\$ 213.08	\$ 200.08	\$ 13.00
U. S. Savings Bonds—Series G.....	200.00	200.00	—0—
BancOhio Stock, 34 shares.....	541.44	497.34	44.10
First Federal Savings & Loan Association.....	1,478.93	1,428.49	50.44
Total Research Fund Assets.....	\$ 2,433.45	\$ 2,325.91	\$ 107.54
TOTAL ASSETS.....	\$27,321.42	\$30,310.88	\$ (2,989.46)
<i>LIABILITIES AND NET WORTH</i>			
LIABILITIES:			
Current Expense Fund:			
Dues paid in advance.....	\$ 45.00	\$ 48.00	\$ (3.00)
Research Fund.....	—0—	—0—	—0—
Total liabilities.....	\$ 45.00	\$ 48.00	\$ (3.00)
NET WORTH:			
Current Expense Fund.....	\$24,842.97	\$27,936.97	\$ (3,094.00)
Research Fund.....	2,433.45	2,325.91	107.54
Total Net Worth.....	\$27,276.42	\$30,262.88	\$ (2,986.46)
TOTAL LIABILITIES AND NET WORTH.....	\$27,321.42	\$30,310.88	\$ (2,989.46)

EXHIBIT B. STATEMENT OF REVENUES AND EXPENSES for the year ended December 31, 1959

CURRENT EXPENSE FUND

REVENUES:

Membership dues—1959 and prior years.....		\$ 4,423.50
Gifts:		
C. M. Goethe.....	\$ 100.00	
Pittsburgh Plate Glass Co.....	100.00	200.00
Interest:		
U. S. Savings Bonds—Series G.....	\$ 23.75	
Modern Finance Co.....	400.00	
Savings accounts.....	320.83	744.58

Junior Academy		1,771.82
National Science Foundation:		
Grant No. 2714	\$1,200.00	
Grant No. 8099	750.00	
Grant No. 9232	7,000.00	8,950.00
Other income:		
Special paper sale	\$ 1.55	
Rental of exhibit space	25.00	26.55
TOTAL REVENUES		\$16,116.45
EXPENSES:		
Subscriptions and engravings—Ohio Journal of Science:		
½ cost of engraving volumn 58	\$ 227.99	
Subscriptions	2,150.00	\$2,377.99
Office supplies and expenses	864.19	
Secretary expense (including cost of obtaining executive secretary) ..	2,239.79	
Treasurer expense	345.23	
Executive secretary and clerical salaries	5,866.35	
Payroll taxes	146.67	
Printing annual report	191.16	
Printing announcements and notices	302.25	
Auditing	65.00	
Public relations, certificates and awards	534.11	
AAAS Academy Conference	23.66	
Junior Academy	2,820.43	
National Science Foundation Grant No. 2714	2,269.84	
National Science Foundation Grant No. 5127	73.96	
National Science Foundation Grant No. 8099	639.82	
National Science Foundation Grant No. 9232	450.00	
TOTAL EXPENSES		19,210.45
EXCESS EXPENSES OVER REVENUES FOR THE YEAR ENDED DECEMBER 31, 1959		\$(3,094.00)
RESEARCH FUND:		
REVENUES:		
Interest on Savings account	\$ 50.44	
Interest on U. S. Savings bonds	2.50	
Dividend on BancOhio stock	54.60	
American Association for Advancement of Science Grant	275.00	
TOTAL REVENUES	\$ 382.54	
EXPENSES:		
Geology Research Field Work and Air Photos	275.00	
EXCESS REVENUES OVER EXPENSES FOR THE YEAR ENDED DECEMBER 31, 1959		\$ 107.54
EXHIBIT C. CASH RECONCILIATION for the year ended December 31, 1959		
CURRENT EXPENSE FUND:		
CASH BALANCE January 1, 1959		\$18,084.97
Income per Exhibit B	\$16,116.45	
1959 and later years collected in 1959	45.00	
Total	\$16,161.45	
Less: 1959 dues collected in 1958	48.00	
		\$16,113.45
Investments cashed in during year:		
Savings account at Park Federal Savings & Loan Association	\$4,000.00	
U. S. Savings Bonds—Series G	1,900.00	5,900.00
Total cash receipts		22,013.45
		\$40,098.42

Less: Expenses per Exhibit E.....	\$19,210.45	
Cash invested in Savings Accounts:		
Buckeye Federal Savings & Loan.....	\$5,000.00	
Franklin Federal Savings & Loan.....	5,000.00	
Ohio Federal Savings & Loan.....	5,000.00	
Park Federal Savings & Loan.....	5,000.00	20,000.00
Total cash expenditures.....		39,210.45
CASH BALANCE December 31, 1959.....	\$	887.97
RESEARCH FUND:		
CASH BALANCE January 1, 1959.....	\$	200.08
Income per Exhibit B.....		382.54
	\$	582.62
Less: Expenses per Exhibit B.....	\$	275.00
Investment in BancOhio Stock.....		44.10
Interest credited to savings account.....		50.44
		369.54
CASH BALANCE December 31, 1959.....	\$	213.08
ROBERT M. GIESY, <i>Treasurer</i>		

REPORT OF THE ACADEMY LIBRARIAN

The Ohio Journal of Science, official publication of The Ohio Academy of Science was used to initiate 19 new exchanges, with the Ohio State University Libraries receiving 31 new titles in exchange. Of this number 17 new exchanges are with foreign institutions, 2 with domestic. This represents a net decrease of 8 as the total for 1958/59 was 556. The total number of exchanges as of April 1, 1960 is 548, 419 of which are foreign and 129 domestic.

There were 27 institutions dropped from the exchange list, 20 of which were foreign institutions, 7 domestic. The exchange list was checked and correspondence brought up-to-date our exchange program by dropping the institutions whose publications were no longer being received or whose publications had been put on a subscription basis.

Revenue from the sales of the *Special Papers*, by the Gift and Exchange Division was \$5.15.

Respectfully submitted,

JEAN BROTSMAN, *Librarian*

REPORT OF THE JOINT ADMINISTRATIVE BOARD OF THE OHIO JOURNAL OF SCIENCE

The annual meeting of the Joint Administrative Board of *The Ohio Journal of Science* was held at Columbus on April 2, 1960. The meeting was called to order by Board Chairman, Bates. Present were, Dr. B. S. Meyer and Dr. R. L. Bates, representing The Ohio State University; Dr. W. G. Gambill, representing The Ohio Academy of Science; as well as Dr. H. L. Plaine and Dr. R. A. Popham of The Ohio Journal of Science staff. Dr. Warren P. Spencer was unable to attend.

Minutes of the last meeting were approved as read.

Dr. W. G. Gambill was elected Chairman of the Board for the year 1960-61.

The report of the Business Manager was approved as read. This report, which accompanies these minutes, is mainly in the form of a financial statement for Volume 59. Dr. Popham reported that (1) the bank balance is about \$400.00 less than at the same time a year ago, (2) circulation of the Journal has increased to 2,030 during the year, (3) the total average cost per page for publishing the Journal in 1959 was \$17.58, (4) an increase of \$500 in the annual contribution of The Ohio State University has been procured and it is expected that contributions by The Ohio Academy of Science, due to an increase in membership, will increase by a like amount during the current year, (5) there is considerable likelihood that income from advertising carried in the Journal will increase by \$200 or more over that for Volume 59.

The report of the Editor, Dr. Plaine, was approved as read. A copy of this report is attached to these minutes. The Editor indicated that the Journal is about six months behind in publication of papers. This delay in publication of papers is considered to be about minimum. In a discussion following the Editor's report the Board unanimously approved a motion stating that all books for review in The Ohio Journal of Science must be approved by the Editor-in-chief before submission to reviewers. The maximum length of book reviews is to be 250 words. It is expected that these tighter controls will bring the supply into closer balance with the space available for the publication of book reviews.

The following staff members were re-elected for the year 1960-61: Dr. Plaine, Editor;

Dr. Popham, Business Manager. After his appointment Dr. Plaine announced the re-appointment of Dr. T. H. Langlois as Book Review Editor. Both Dr. Bates and Dr. Meyer reported that they had tried repeatedly to obtain favorable action by the administration of The Ohio State University concerning their suggestion that University representatives be appointed for three-year terms and that a replacement be designated immediately to take Dr. Meyer's place on the Board.

The Board authorized the Business Manager and the Editor to seek a part-time paid technical editor.

There being no further business, the Board adjourned.

Respectfully submitted,

RICHARD A. POPHAM, *Secretary of the Board*

THE OHIO JOURNAL OF SCIENCE

VOLUME 59—FISCAL YEAR 1959

BALANCE SHEET

	Vol. 58 Fiscal Year 1/1/58 12/31/58	Vol. 59 Fiscal Year 1/1/59 12/31/59
RECEIPTS:		
Bank balance at beginning of period.....	\$ 2,974.19	\$ 3,230.08
O.S.U.—paid for subscriptions.....	2,500.00	2,750.00
O.A.S.—paid for subscriptions.....	2,044.50	2,150.00
Non-members—paid for subscriptions.....	599.00	739.00
Separate numbers, volumes and reprints sold.....	656.99	430.36
50 year index sold.....	20.00	15.00
O.A.S.—paid ½ cost of plates.....	332.40	227.99
O.A.S.—paid for annual report.....	148.83	191.16
Miscellaneous.....	132.55	1,062.60*
Advertisements.....	383.94	406.38
Charles F. Kettering—Gift.....	0.00	0.00
	<hr/> \$ 9,792.40	<hr/> \$11,202.57
EXPENDITURES:		
Spahr and Glenn—printing O.J.S.....	\$ 5,628.44	\$ 5,824.57
Bucher Engraving—plates.....	455.99	858.70
Postage and express.....	239.91	248.34
Labor.....	53.00	283.50
Office expenses and bank charges.....	84.00	26.77
Advertising of the O.J.S.....	50.00	0.00
Reprints.....	26.93	53.37
Mailing envelopes.....	0.00	0.00
Refunds.....	10.50	0.00
Miscellaneous.....	13.55	1,221.12**
Bank balance at end of period.....	3,230.08	2,686.20
	<hr/> \$ 9,792.40	<hr/> \$11,202.57

* **A \$1,000.00 loan was made to the Ohio Academy of Science on 9/14/59 and was repaid on 10/22/59.

**A complete set of the journal (1900–1958 inc.) was bound at a cost of \$162.00.

**Art work, etchings, metal base and proofs of new cover design cost \$41.15.

**A zinc etching was made for an advertiser. The cost of \$17.97 will be recovered by billing the advertiser.

THE OHIO JOURNAL OF SCIENCE

REPORT OF THE EDITOR OF VOLUME 59, 1959, to the Joint Administrative Board

Volume 59 of The Ohio Journal of Science contained 408 pages, of which 353 pages were devoted to 51 scientific papers in 8 areas of science (as designated by sections of The Ohio Academy of Science); 18 pages were devoted to affairs of the Academy; 11 pages to advertising; and 26 pages to announcements, book notices, the index and table of contents, and routine journal format. Fifteen book notices were published, which represents a considerable reduction from the number reviewed in previous volumes. This was not due to any decrease in the number of reviews submitted to the editor, but was the result of conserving space in order to publish more papers and accommodate special copy.

Although editorial policy has been not to divulge the names of reviewers, I wish to thank our many colleagues, some of whom are not members of the Academy, for their service as referees and reviewers.

Respectfully submitted,

HENRY L. PLAINE, *Editor-in-Chief*

Distribution by Field of Articles Published in 1959

Field	No. of articles	Total pages	Percent
Anthropology and Sociology	3	27	4.8
Chemistry	9	65	18.4
Conservation	2	9	2.5
Geology	9	86	24.4
Physics and Astronomy	1	6	1.7
Plant Sciences	7	64	18.1
Zoology	18	85	24.1
Genetics	2	21	6.0
Total Scientific Papers	51	353	100.0
Other			
Notices			
Academy	7	4	
Book	15	4	
Annual Report of Ohio Academy of Science		14	
Table of Contents		4	
Index		2	
Advertising		11	
Journal Format		16	
Number of pages for other:		55	
Total number of pages in Volume 59:		408	

REPORT OF THE DIRECTOR OF PUBLIC RELATIONS

The position of the Director of Public Relations has become, in part, an advisory one. Except for such items as the awarding of NSF or research grants to or through the Academy, the individual contacts by the Executive Secretary or through his office constitute the public relations of the Academy during the year. Thus, he certainly has to be the one responsible for any news releases related to these items. However, the Director of Public Relations can be useful as an advisor to the Executive Secretary, can provide Executive Committee authority to act in many cases (e.g., when the Committee is unavailable between meetings or in the many cases which do not require action of the entire Committee), and can provide the Executive Committee with a means of keeping informed on the activities of the Executive Secretary in this area of service.

However, the Director of Public Relations must assume full responsibility for the publicity directly associated with the annual meeting, both in the matter of news releases and in making the local contacts and arrangements, for the Executive Secretary could not be expected to add this concentrated task to his unusually heavy other duties at this time of year. The amount of actual paper work for the Director has been reduced by having the typing, mimeographing, and mailing done largely in the central office. Extra clerical help will probably be required for this purpose in the central office in the future, and it is recommended that the budget of the Executive Secretary be expanded to cover this item. It is also recommended that sufficient extra copies of the program of the annual meeting be printed to permit mailing to the various news outlets, thus saving much correspondence and details on many news releases.

We have had better luck this year than previously in securing titles and abstracts from the section Executive Vice-Presidents. One particular item which should be mentioned is the lack of abstracts or information of any sort for the symposia. As a result we have been unable to supply this information to news services requesting it. These symposia are the chief items of news interest in the program and we must have something to offer the news services. Another suggestion is that these types of programs be alternated timewise as much as possible so that reporters can get to more than one such program (not to mention Academy members).

Respectfully submitted,

JOHN R. COASH, *Director*

REPORT OF THE EXECUTIVE SECRETARY OF THE JUNIOR DIVISION, OHIO ACADEMY OF SCIENCE

The activities of the Junior Division during its twelfth year were centered around the Science Day Program. Increased interest in all sections of the state forced District Planning Committees to adopt new, and in some cases novel, methods for selecting projects to participate at State Science Day. Limitation of the number of projects at State Science Day was necessary because of limited facilities at Antioch College and the time and personnel available for judging. Special emphasis was placed upon the extension program involving the affiliation of local science days with the Junior Division for the purpose of selecting participants at District Science Days from the outstanding projects at local level. One new district became operational and a second was approved to function next year. This will bring to ten the total number of districts holding science days in 1961. Additional changes are anticipated in order to keep pace with increased interest and activity in the public schools. The School Awards Program was changed with respect to name, stipend, and method of administration of the awards. Favorable response on a proposal for funds to help defray expenses of Junior Division Program for 1960-61 has been received from National Science Foundation. Other activities of the Junior Division prescribed by the constitution (Ohio Academy of Science News, Teacher Awards, State Science Day Award, and Scholarship Tests) were conducted in the normal manner with broader coverage than in previous years.

SECTION I ORGANIZATION

A. *North District:* Defiance College, Defiance became the center for a new district involving Defiance, Henry, Paulding, Van Wert, and Williams Counties. 195 students from fifteen schools participated in the first District Science Day on April 2, 1960. Included in the awards ceremony were two internationally respected personalities, Dr. Kevin McCann, President of Defiance College and speech writer for President Eisenhower welcomed the participants to the campus; and Dr. Paul Siple, Antarctic Explorer, delivered an address and presented certificates to the superior projects.

B. *New District:* Administrative details have been completed for the establishment of our tenth district to be centered at Ashland College. An organizational meeting will be held early in May to elect officers and to plan for 1961. This new district includes Lorain, Ashland and Richland Counties from North Central District; Medina, Holmes and Wayne counties from Northeast District; and Knox county from Central District.

C. *West District:* A new center must be located to replace Wittenberg University which has requested relief from district responsibilities.

D. *Judging Committee:* A permanent committee to take charge of details and recommendations concerned with judging was formed within the framework of the council of the Junior Division. R. E. McKay, former Executive Secretary of the Junior Division, was appointed as the chairman of this committee.

SECTION II LOCAL AFFILIATED SCIENCE DAYS

Eighty-one school organizations, representing more than 200 schools, have affiliated their local science days with the Junior Division. Reports received to date indicate that more than 12,500 presented projects at these Local Science Days which were visited by nearly 82,000 persons. All grades from Kindergarten through 12th were represented. The following table indicates growth of the extension program:

District	No. 1958	No. 1959	No. 1960	Participation 1960
Southeast		2	9	1300
East	1	2	2	No reports
Northeast		2	2	271
North Central	2	14	43	6828
Central	2	11	11	626
Southwest		2	2	310
West	1	3	4	591
Northwest	4	7	5	735
North			3	1841
Total	10	42	81	12502

SECTION III DISTRICT SCIENCE DAYS

The number of students participating at District Science Days was about the same as 1959 (more than 6000) in spite of measures taken by some districts to reduce the number of entries. 11,000 persons visited the nine District Science Days to view projects from more than 525 schools.

Central District limited the number of entries permitted from a school to a maximum of 5% of that school's science population. Joint projects were not permitted to enter. A point system of judging was used to select entries for State Science Day.

North Central District restricted entries at District Science Day to single projects that had received a superior rating at an affiliated local science day. Six county and 37 local school systems have affiliated their science days with the Junior Division. With all but six reporting a total of 6828 students participated and 46,000 persons visited local science days in this district. Selection of entries for State Science Day was accomplished by using a point system of evaluation.

Northwest District did not permit joint projects and restricted participation to grades 8 through 12. Further reduction in number of entries was accomplished by limiting the number of entries from the 8th and 9th grades to 5% of the number of science students in these grades. Projects were judged in the conventional manner, but the superiors were re-judged using a point system to determine the State Science Day entries.

The following table gives a summary of the 1960 District Science Day Program:

	No. of Projects	No. of Students
March 19, East, Muskingum College	326	375
April 2, North, Defiance College	172	195
Northwest, Bowling Green	789	789
Northeast, Kent	777	807
West, Wittenberg University	519	606
April 9, Southeast, Ohio University	402	447
North Central, Heidelberg	1047	1047
Central, Columbus	1000*	1000*
Southwest, Miami	1000*	1000*
Total	6038	6266

*Estimate.

SECTION IV STATE SCIENCE DAY

The number of projects at State Science Day was limited to 600 by permitting each district to send 14.3% of the number of projects from 9th through 12th grades at their 1959 District Science Day. The limitation in number of projects was based upon the facilities at Antioch College and the number of persons available for judging. The total number of students participating will be between 650 and 700 since six districts permit joint projects. Sectional meetings will be suspended at 11:00 A.M. for judging of science day projects. 240 schools will be represented by projects at Antioch College. Districts were allowed spaces as follows: Southeast 42; East 33; Northeast 93; North Central 107; Central 87; Southwest 61; West 51; Northwest 112; and North 27.

SECTION V OHIO ACADEMY OF SCIENCE NEWS

Volume XII of the Ohio Academy of Science News contained a total of 20 pages devoted entirely to articles of interest to Academy members and science teachers. Mrs. Clara Kenney of Chillicothe served as editor for this volume and has agreed to continue in that capacity for another year. Circulation increased to 10,000 copies as a result of an effort by the central office. All three issues were mailed from the central office.

SECTION VI SCHOLARSHIP TESTS

Scholarship tests will be administered by the testing service of Antioch College. Mr. William R. Zeitler of Parma High School is chairman of the scholarship committee.

SECTION VII TEACHER AWARDS

The 1960 Outstanding Teacher Award winners are:

- Southeast —Chester Hurd, Chillicothe High School
- East —
- Northeast —Jack Miller, Shaker Heights High School
- North Central—Kenneth Bonsell, Avon Lake High School
- Central —
- Southwest —Miss Etta Louise Elberg, Walnut Hills High School, Cincinnati
- West —Karl L. Braun, Keifer Junior High School, Springfield
- Northwest —Mrs. Norman (Dorothy) Fish, Pandora-Gilboa High School
- North —Marion Fisher, Holgate High School

SECTION VIII SCHOOL AWARDS

The Kroger Company presented six awards this year. Mr. Irwin Slesnick, Chairman of the Special Awards Committee, announces the following winners:

Southeast	—Jackson High School
Northeast	—Benedictine High School, Cleveland
North Central	—Clyde High School
Central	—West High School, Columbus
Southwest	—Mother of Mercy High School, Cincinnati
West	—Urbana High School

SECTION IX STATE SCIENCE DAY AWARD

Pandora-Gilboa High School. Pandora was the only State Science Day award winner for 1959. Nine projects were entered and eight were rated Superior. Thirty-six schools are competing for the award this year.

SECTION X CHANGES IN REGULATIONS

Regulations changing the name of the Kroger Award to the Frederick H. Kreckler Award were adopted by the Junior Division Council and approved by the Executive Committee.

SECTION XI PERSONNEL

Changes in personnel of the Junior Division have been made as follows:

Councilmen:

Southeast	—Robert Harrison, Jackson High School
East	—John Bisbocci, Martin's Ferry High School
Northeast	—Lewis Sturm, Shaker Heights High School
North Central	—H. Ray Wagner, Monroe County Schools
Central	—Donald Murphy, Eastmoor High School, Columbus
Southwest	—Paul Ruark, Lemon-Monroe High School
West	—Karl Braun, Keifer Junior High School, Springfield
Northwest	—George Clark, Archbold High School
North	—Richard Hollstein, Montpelier High School

Chairmen:

State Science Day Award Committee—George Clark, Archbold High School
 Scholarship Committee—William R. Zeitler, Parma High School
 Judging Committee—Robert E. McKay, Bowling Green State University.

SECTION XII MISCELLANEOUS

Owens-Illinois Glass Company donated 700 sets of souvenir glasses for distribution to state science day participants.

Executive Secretary, Junior Division served as a member of the Toledo Science Day Advisory Committee. 1100 projects were displayed at this event.

Executive Secretary has been appointed to the committee on Junior Academies of the Academy Conference, A.A.A.S.

Dr. Arthur Lutz, Councilman from West District and Rudolph Gerlach, Councilman from East District, have been awarded NSF fellowships for next year.

Junior Division has been invited to display conservation projects at the Paul Bunyan Forestry Exposition, New Lexington on September 21-23.

500 copies of a 10 page pamphlet on heart projects were reproduced and distributed.

It is anticipated that a grant from National Science Foundation will enable the Junior Division to publish a "Directory of Science Days" and "A Handbook for Science Days."

Respectfully submitted,

GERALD ACKER, *Executive Secretary*

REPORT OF THE TRUSTEES OF RESEARCH FUNDS

FOR THE PERIOD OF APRIL 1959 TO APRIL 1960

During this period the Trustees received the following requests for grants and all of them were honored as follows:

Dr. Robert W. Long, Department of Botany, Ohio Wesleyan University, for studies of THE COMPOSITAE OF OHIO (in Central Ohio).....	\$200.00
Dr. T. Richard Fisher, Department of Botany, The Ohio State University, for studies of THE COMPOSITAE OF OHIO (in Northern Ohio).....	\$200.00
Dr. H. R. Eggleston, Department of Biology, Marietta College for completion of studies of BIVALVE MOLLUSCA OF OHIO, OF THE FAMILY UNIONIDAE.....	\$100.00
Prof. Janet P. Toy, Department of Biology, Wittenberg University for A STUDY OF POSSIBLE METABOLIC PATHWAYS OF CERTAIN ASCOMYCETES.....	\$150.00
Total of four grants.....	\$650.00
This leaves a balance of \$108.00 available from the A.A.A.S.	

Respectfully submitted,

WILLIAM C. BEAVER, *Chairman*

REPORT OF THE OHIO FLORA COMMITTEE

The first of a series of proposed publications, *Woody Plants of Ohio* will be published by The Ohio State University Press and is expected to appear by June, 1960.

The National Science Foundation has approved a proposed project, *The Monocots of Ohio*. The grant became effective November 1, 1959, with E. L. Braun being named the chief investigator. The taxonomic treatment of the grasses will be directed by Clara Weishaupt.

Work is continuing on other parts of the Flora. William Adams is about a year away from the manuscript phase on the *Ferns of Ohio*. Percy Lilly of Heidelberg College will begin work on the nonwoody Ranales of the Dicotyledons. William Gambill is progressing on the Legume project which will be expanded to include the Rosaceae of Ohio. Warren A. Wistendahl, also of Ohio University, will participate as coinvestigator of that project.

With the aid of a grant from The Ohio Academy of Science, the Compositae project under the coinvestigatorship of T. R. Fisher and Robert W. Long, Jr., should be about one-fourth finished. Application for a grant from the National Science Foundation should be in order by the fall of 1960.

The family Cruciferae has been undertaken by William Easterly of Bowling Green. This investigation began locally and is expected to expand and include the Cruciferae of Ohio.

Respectfully submitted,

T. RICHARD FISHER, *Chairman*

REPORT OF THE ACADEMY HISTORIAN

The series of reports to the various sections on their historical development was continued during the past year with papers read to the Section of Geology and the Section of Medical Sciences. Plans have been developed to continue reporting to two sections each year.

Herewith is assembled, for the first time, a complete roster of the editors and business managers of the *Ohio Naturalist* (Nov. 1900-1915) and of its successor, *The Ohio Journal of Science* (Nov. 1915-to date).

1. *Editors-in-Chief*
 John H. Schaffner, vol. 1, 4-7, 9-17.
 James S. Hine, vol. 2, 8.
 F. L. Landacre, vol. 3.
 Frederic H. Krecker, vol. 18-29.
 Herbert Osborn, vol. 30-32.
 Laurence H. Snyder, vol. 33-41.
 Glenn W. Blaydes, vol. 42-50.
 Earl L. Green, vol. 51-52.
 Richard H. Böhning, vol. 53-56(4).
 Henry L. Plaine, vol. 56(5)-to date.
2. *Business Managers*
 James S. Hine, vol. 4-20 (1903-1920). (Sometimes referred to as Associate Editor, but was in charge of business affairs.)
 Lewis H. Tiffany, vol. 21-29.
 Bernard S. Meyer, vol. 30-41.
 John A. Miller, vol. 42-48.
 Richard A. Popham, vol. 49-to date.
3. *Associate Editors, Book Review Editors, Associate Business Managers, etc.*
 Frederick W. Ives, vol. 16 (1915-1916). (Assoc. ed.)
 Thomas G. Phillips, vol. 17 (1916-1917). (Assoc. ed.)
 Jay B. Park, vol. 18-31. (Assoc. ed.)
 L. H. Snyder, vol. 32. (Assoc. ed.) (Became editor with vol. 33; no Assoc. ed. appointed until vol. 41.)
 John A. Miller, vol. 40-41. (Assoc. bus. Manager) (Became Bus. mgr. with vol. 42; no Assoc. bus. mgr. appointed.)
 Glenn W. Blaydes, vol. 41. (Assoc. ed.) (Became editor with vol. 42; no Assoc. ed. appointed until vol. 50.)
 Ralph H. Davidson, vol. 43-47. (Asst. bus. manager)
 Earl L. Green, vol. 50. (Assoc. ed.) (Became editor; no Assoc. ed. until vol. 52.)
 Richard H. Böhning, vol. 50-52. (Advertising repres.)
 Curtis M. Wilson, vol. 50-51. (Book rev. ed.)
 Frank W. Fisk, vol. 52-57(2). (Book rev. and Assoc. ed.)
 Thomas H. Langlois, vol. 57(3)-to date. (Book rev. ed.)

Respectfully submitted,

RALPH W. DEXTER, *Chairman*

REPORT OF THE COMMITTEE ON INSTITUTION AND CORPORATION MEMBERS

During the period covered by this report, the committee was unable to add new names to the roster of Institution and Corporation Members of the Academy.

This year the Pittsburgh Plate Glass Foundation again supported the program of the Section of Chemistry by a grant of \$100.

Respectfully submitted,

P. ROTHMUND, *Chairman*

REPORT TO THE COUNCIL OF THE SCIENCE TEACHER CERTIFICATION COMMITTEE

The Committee on Science Teacher Certification met in Columbus at the Battelle Institute on Saturday morning, October 24, 1959. All but three members were present. Professor Garrett was invited as consultant, but at the last moment was unable to attend and the State Board of Education was unable to send a representative.

The Committee recommended the following changes in the wording of our report to the Council given April 16, 1959. These changes do not affect the overall recommendations approved by the Council. Under paragraph 2 B, add the word "Astronomy" after "Physical Geography" and the word "Conservation" after "Human Geography." Under C, General Science, it was suggested that we change the last item to 3 hours minimum, Physical Geography.

After some discussion, it was voted to recommend to the Council of the Academy that the Committee make out an application to the National Science Foundation for funds for a fact-gathering investigation concerning the preparation of science teachers in the State of Ohio. Secondly, it was voted that the chairman contact the proper person of the State Board of Education to discuss the proposed changes in the certification of science teachers.

Mr. May, who is in charge of the science certification was ill and not available for consultation and no one else was put forward to discuss the material with the chairman. Finally I made contact with Mr. May by mail and received the following reply from him. "I have received your letter of March 28th in which you included recommendations of the Ohio Academy of Sciences for certification in the various fields of science. Please be advised that I shall keep this information until such time as we consider the revision of our certification regulations."

Respectfully submitted,

J. C. GRAY, *Chairman*

REPORT OF THE RESOLUTIONS COMMITTEE

Be it resolved that the members of The Ohio Academy of Science express to the Administration of Antioch College, to Dr. John Lounsbury, chairman of the local committee on arrangements, and to the several members of his committee, their appreciation of the excellent facilities and thoughtful hospitality which have contributed so richly to the success of this, the 69th meeting of the Academy.

Respectfully submitted,

FRANK O. HAZARD, *Chairman*

REPORT OF THE NECROLOGY COMMITTEE

In alphabetical order there follows a listing of the deaths that occurred in the membership of The Ohio Academy of Science in the interval between April, 1959 and April, 1960.

Respectfully submitted,

A. G. MCQUATE, *Chairman*

Dr. Lawrence Major Dickerson, a member of the Academy in the Conservation Section since 1939. He was born at Cadiz, Ohio, June 26, 1899, received his B.S. degree at the College of William and Mary in 1924; the M.S. degree in 1929 and the Ph.D. degree in 1930 from the University of Virginia. Dr. Dickerson was Professor of Biology at Cumberland University, 1930-1935; he left the teaching field to become assistant Wildlife Technician, National Park Service, 1935-38, and then became Biologist, Soil Conservation Service from 1938-1959.

On August 13, 1923 he married Arline Eubank, by whom he had two sons, Laurence Willis and Charlesworth Lee, and one daughter, Mrs. George Minter.

Dr. Dickerson was a member of the following honor societies: Omicron Delta Kappa, Phi Beta Kappa, and Sigma Xi. He published a number of scientific papers and many short articles for the Nature Magazine.

Dr. Dickerson died June 15, 1959 of reticular cell sarcoma and was interred in Oak Hill, Cemetery, Fredericksburg, Virginia.

Dr. Edna Eisen was a fellow of the Geography section of the Academy. She was born in Milwaukee, Wisconsin, June 27, 1895. She received her Ph.B. degree in 1928, M.S. in 1929, and Ph.D. degree in 1948, all from the University of Chicago.

Dr. Eisen taught in the Milwaukee Public Schools from 1915 to 1935, and then was on the faculty of the Department of Geography at Kent State University from 1935-1960. She received honors with her Ph.B. degree and was a member of Sigma Xi and Delta Kappa Gamma.

Her Publications consisted of "Our Country from the Air," 1937, and numerous articles in geography periodicals.

She died April 15, 1960 of cerebral hemorrhage and was buried at Milwaukee, Wisconsin.

Dr. Harold Raymond Nelson, Fellow of the Physics Section and manager of Battelle Memorial Institute's department of Physics at the time of his death.

He was born in Brattleboro, Vermont, December 4, 1904.

He received his A.B. degree at Amherst College in 1926, and his Ph.D. in Physics at Cornell University in 1934.

Dr. Nelson was assistant in Physics at Cornell 1927-29; instructor, 1929-34; research physicist, Battelle Memorial Institute, 1934-41; assistant supervisor, 1941-43; supervisor, 1943-53; manager, Dept. of Physics, 1953 until the time of his death.

On June 26, 1932, he married Helene Graham Browne, who survives him, as do also a daughter, Alice Jean, and a son, Robert Browne.

He received many honors, including Theta Delta Chi; Gamma Alpha (National President); and Sigma Xi. He was affiliated with the American Physical Society, Acoustical Society of America, The American Nuclear Society, American Crystallographic Association. He was a member of Atomic Energy Commission's Advisory Committee on Isotope and Radiation Development; Chairman, Ohio Atomic Energy Advisory Committee. He developed the first electron diffraction camera built in America. He was one of the leading American scientists who made up the United States delegation to the first (1955) International Conference on the Peaceful Uses of Atomic Energy in Geneva, Switzerland.

Dr. Nelson has written extensively for technical and scientific publications. He came to an untimely death on April 3, 1960 as a result of injuries from a boating accident and was buried at St. Lucia, British West Indies.

Dr. Edward Loran Rice, Fellow in the Zoology section, President of the Academy 1906-07, Secretary 1912-23, Professor Emeritus of the Department of Zoology, Ohio Wesleyan University.

Dr. Rice was born in Middletown, Conn., March 18, 1871. He received his A.B. degree, 1892, at Wesleyan, Conn.; Ph.D. degree in Zoology, 1895, at Munich; Sc.D., 1927, Wesleyan. He began his 50 consecutive years of teaching as Assistant Professor at Wesleyan in 1896; Professor of Biology and Geology, Allegheny 1896-98; Professor of Zoology, Ohio Wesleyan 1898-1941; War Emergency Professor Ohio Wesleyan 1942-45; Acting President, Ohio Wesleyan 1938-39; Visiting Professor at Ohio State University Lake Laboratory 1905, '06, '08, '09, '12.

Dr. Rice married Sarah Langdon Abbott on March 20, 1901 and to this union were born Charlotte Rice Rodden and William Abbott Rice.

He was honored with membership in Phi Beta Kappa and Sigma Xi. He was a fellow of AAAS of which he was Vice President and Chairman of Section F in 1903. He held membership in American Society of Naturalists, American Genetics Association, American Association of Anatomists, American Society of Zoologists. He authored a text, "An Introduction to Biology" in 1935, and contributed numerous papers to scientific journals.

Dr. Rice died February 4, 1960. He bequeathed his eyes to the Illinois Society for the Prevention of Blindness, and his body to the School of Medicine of the University of Chicago. His memory will be preserved in Indian Hill Cemetery, Middletown, Connecticut.

Dr. Charles Gallatin Shatzer, a Fellow in the Section of Geography, and President of the Ohio Academy, 1937-38. Dr. Shatzer was born at Shelby, Ohio, December 8, 1877. He received his A.B. degree from Wittenberg College in 1900; his A.M. degree, Wittenberg, 1904; pursued graduate studies for several summers at University of Chicago; awarded honorary degree Sc.D. by Susquehanna University, 1921.

Dr. Shatzer served as principal of the high school, Plain City, Ohio, 1900-01; Instructor in science and mathematics in Wittenberg Academy, 1901-04; organized the Department of Biology and Geology at Wittenberg College in 1904 and taught Geology and Geography. From 1914-1923 and 1925-1946 he was Dean of the College, retiring in 1946 as Dean Emeritus. During the summers of 1911-15 he was on the staff of The Ohio State University Biological Laboratory at Cedar Point.

On June 14, 1917, he married Catherine Greenawalt, who survives him as well as one daughter, Mrs. O. Fred Jaeger, Jr.

In addition to his academic career, he was active in the Lutheran Church, serving as Executive Secretary of the Lutheran Laymen's Movement 1923-25; President, Tecumseh Council, Boy Scouts of America; First President of the Springfield Kiwanis Club, 1919; served in the Ohio Association of Presidents and Deans.

Dr. Shatzer's death on Sept. 12, 1959 was due to acute hemorrhages resulting from gall stones. He was buried in Ferncliff Cemetery, Springfield, Ohio.

Dr. Edgar Nelson Transeau, a Fellow in the Plant Science Section, and President of the Ohio Academy in 1924, Professor Emeritus of Plant Physiology and Ecology, Ohio State University. He was born October 21, 1875 in Williamsport, Pa.

Dr. Transeau received his Bachelor's Degree from Franklin and Marshall College, Lancaster, Pa., 1897 and was the Holder of the Ferry Fellowship at the University of Michigan where he received the Ph.D. degree in 1904. He was Professor of Biology, Alma College, 1904-06; Investigator, Station for Experimental Evolution of the Carnegie Institution, Cold Spring Harbor, Long Island, 1906-07; Professor of Botany, Eastern Illinois Teachers College, Charleston, Ill. 1907-15; Professor of Plant Physiology and Ecology, The Ohio State University, Columbus, Ohio, 1915-46. He retired as Professor Emeritus, 1946.

In 1906 Dr. Transeau married Gertrude Hastings, M.D. of Meadville, Pa. and is survived by one daughter Elizabeth H. (Mrs. August) Mahr of Columbus.

Dr. Transeau was a member of AAAS, 1904-46, Fellow 1908, vice-president for Botany 1941, Active member of Botanical Society of America, 1904-55, president, 1940; Charter member Univ. of Michigan chapter of Sigma Xi, 1904; Member Association of American Geographers, 1905-54; Fellow American Geographical Society 1908-54; Charter member Ecological Society of America, 1915-55, President 1924; American Society of Naturalists 1918-55; National Research Council, Division of Biology and Agriculture, 1928-36; member of the Editorial Board, Ecological Monographs, 1931-34; Honorary member Phi Epsilon Phi, 1935, and Phi Beta Kappa, 1949; Honorary Sc.D. Conferred by Franklin and Marshall College in 1941, and by Ohio State University in 1949; President Phycological Society of America, 1951.

His extensive research resulted in numerous publications and contributions to scientific journals, as well as his test book in General Botany and Laboratory Manual.

He died January 25, 1960 of pulmonary edema.

Dr. William D. Warren, member of the section of Chemistry of the Ohio Academy and Head of the Department of Chemistry, Western College, Oxford, Ohio.

Dr. Warren was born at Akron, N. Y. on July 9, 1896. He attended Elmira Free Academy, 1926; Ph.D. in Chemistry, 1930; all at Cornell University.

He held positions in industry, 1920-25; Western College 1926-29; Head of Department of Chemistry, East Central State College in Ada, Okla. 1930-44; War Production Board in Washington, 1943; Head, Dept. of Chemistry, Western College, 1944 to his death.

On July 19, 1924 he was married to Marjory Hastings, who survives him, as well as a daughter, Dorothy Hastings Warren Rinaldo and a son, William Dwight Warren, Jr.

Dr. Warren was the recipient of several medals and citations in World War I (wounded in action) and held membership in several honorary societies. He was a member of AAAS and the American Chemical Society. He was the author of a Laboratory Manual for College Chemistry.

He died September 29, 1959 of a heart attack and was buried at Oxford, Ohio.
